BDP

Upper Mount Car Park Site

Ground and Contamination Desktop Study

P3001397

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Project Revision Sheet

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1. Introduction

BDP have been commissioned to conduct this desktop study to understand the existing site conditions on and around the site of the Upper Mount Car Park in Chatham ME4 6BP. This car park is located adjacent to the A2 and can be accessed via Old Road and then The Mount. It is anticipated that the site will be developed into residential accomodation constructed on the existing car park.

This study provides a summary of the current site condition, its history and any likely hazards or features that may be relevant to future works on the site. Information was obtained in February 2021 from the following sources;

- Current maps available in the public domain (google maps, bing maps)
- Current maps obtained via the Envirocheck Landmark Information website
- Historical maps also obtained via the Envirocheck Landmark Information website
- Envirocheck Geology Maps
- Preliminary Unexploded Ordnance Threat Assessment from Envirocheck
- Envirocheck reports highlighting local points of interest such as nearby industrial sites (present or historic) that may increase the risk of contamination on the site
- Borehole data from the British Geological Society

Site Location

2. Site Context

The site is located in Chatham, a town of approximately 75,000 inhabitants situated 30 miles to the southeast of London. The plot included in the scope of this study is approximately 110 m x 30 m. The A2 is located to the northeast of the plot and Old Road runs along the north of the plot. To the south and west of the plot are a series of residential properties. To the east of the site is a grass embankment with a series of trees. Beneath this is an underpass which allows Claremont Way to pass under the A2. Additionally, access to the site is provided by The Mount which also provides access to the residential properties to the southeastern edge of the site.

Existing Upper Mount Car Park Site Looking Southeast From Old Road

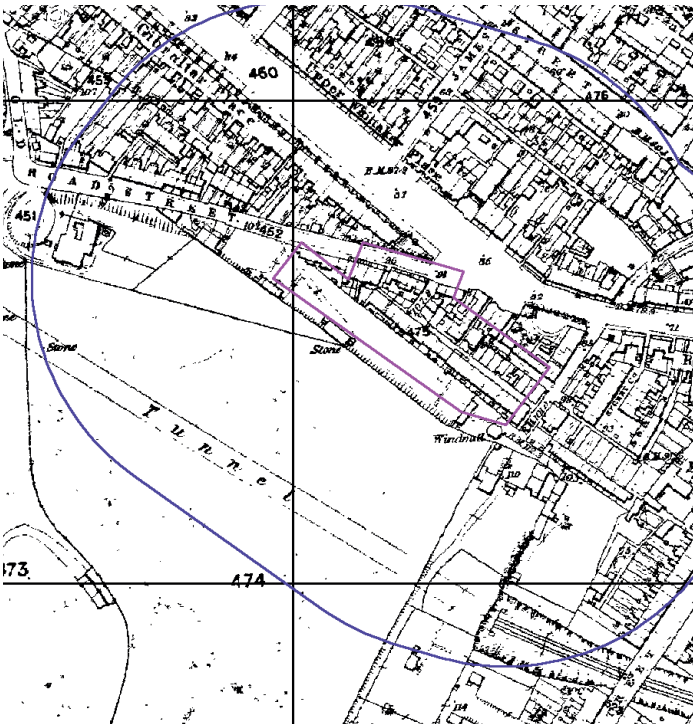
Existing Upper Mount Car Park Site Looking Northwest From Eastern Corner of Plot

Existing Upper Mount Car Park Site

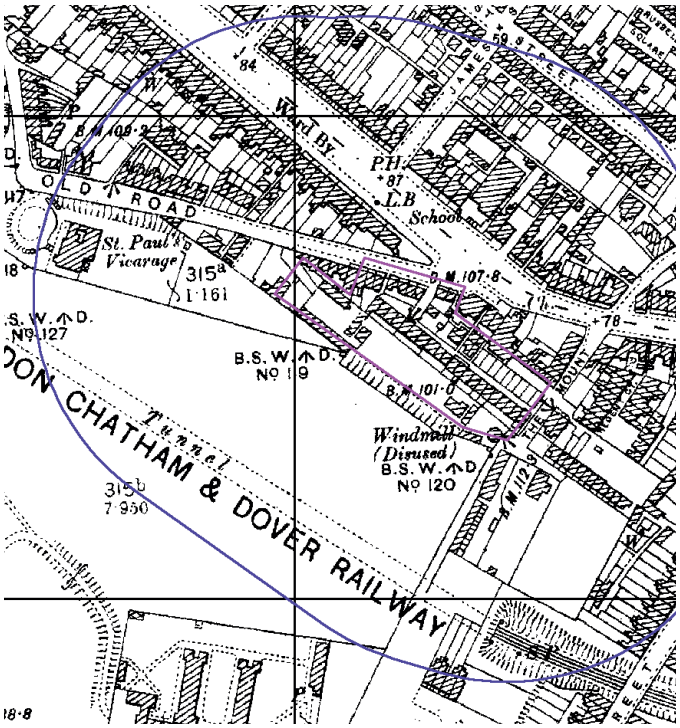
3. Site History

Maps taken from the mid-to-late 1800s show the existence of what is believed to be residential propoerties located on the site, with residential developments also extending to the north, east and west.

To the south, a railway tunnel could be found, forming part of the London-Chatham line. This railway tunnel is shown to extend towards Chatham Station, lactated to the west of the site, and is still in use today. Additionally, located to the southern side of railway tunnel is the Southill Barracks and these were constructed in approximately 1880.



Site Map - 1866

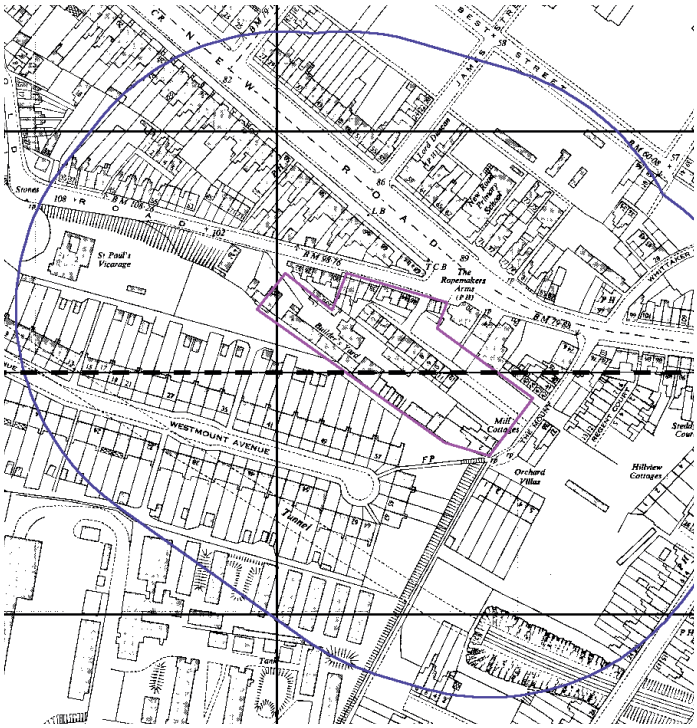


Site Map - 1898

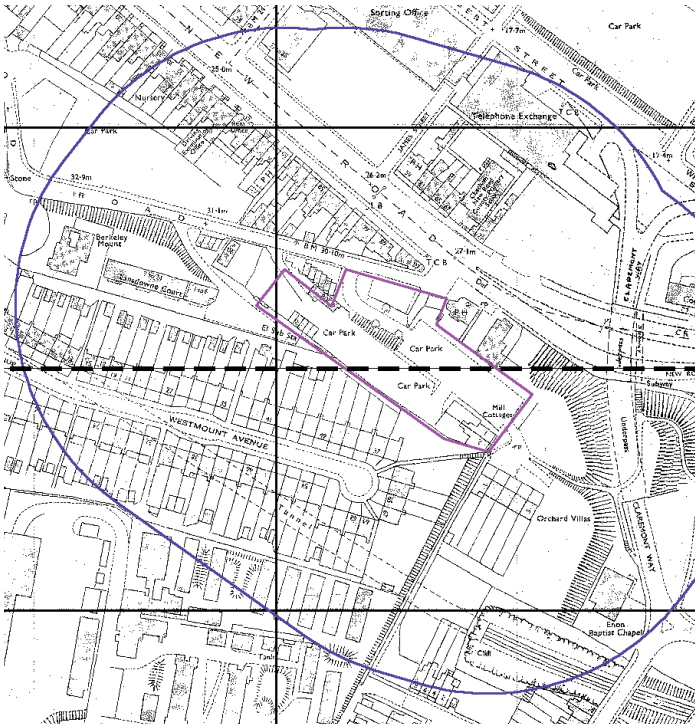
During first half of the 1900's it appears that the site continued to be occupied by residential properties. In 1954 a builder's yard has been noted within the site boundary. Little information is available on the exact purpose of this yard, but it is likely it was used to store a range of construction materials, which given the time period could have left minor traces of asbestos on the site. This is a small risk, but should be verified with a detailed site investigation in the future.

Through the intervening period between 1954 and 1973, a car park was constructed on the site. Additionally, the Claremont way underpass was constructed in the period to the east of the site. It is also evident that during this period Westmount Avenue was constructed on the land above the railway tunnel to the south of the site, converting this area into residential land.

Since this period it would appear the site has continued to be utilised as a car park.



Site Map - 1954



Site Map - 1973

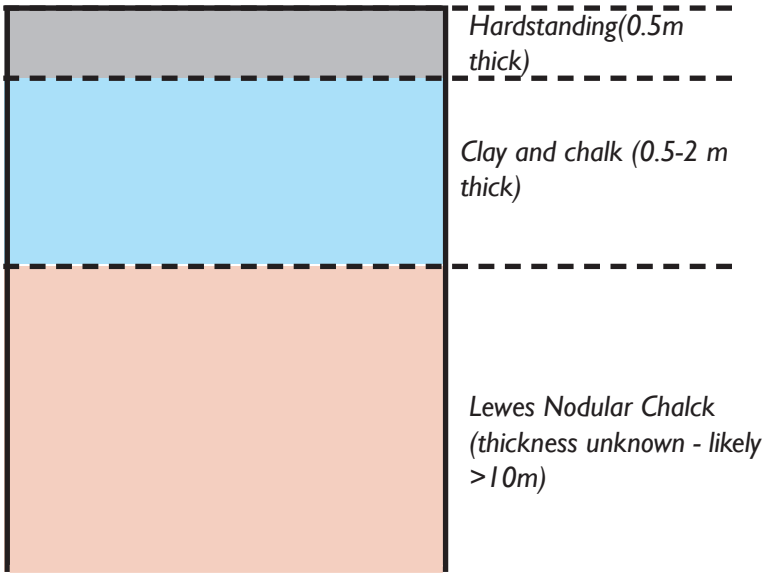
4. Ground Conditions

Geological maps of the site suggest that any made ground will be overlaying a band of clay and silt. The bedrock beneath this is likely to be part of the Lewes Nodular Chalk Formation.

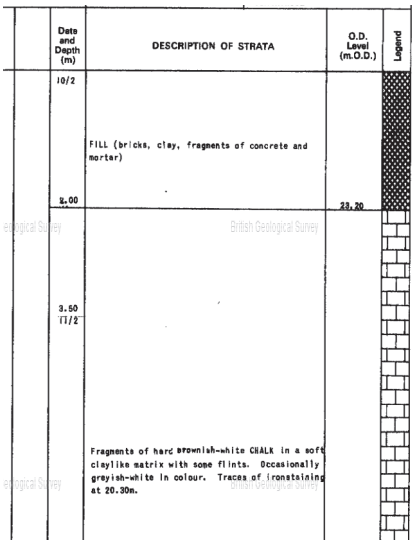
The British Geological Survey website was reviewed to check for any historic boreholes local to the site. Although none were located on the site itself, 2 boreholes logs were found nearby. The first is located approximately 20m northeast at New Road (A2) and the second is located approoximately 100mm southwest near Westmount Avenue.

These show layers of made ground and and clay down to a thick layer of chalk at 0.5-2mbgl. This is in line with what is expected based on the geological maps of this area, as well as being similar to additional borehole logs accessed in the extended local area. It can therefore be concluded that the site geology will be similar to that shown in the borehole log with the addition of hardstanding due to the current use as a car park. Further detailed investigations would be needed to verify the ground conditions on our specific site given the lack of available informatinon from boreholes within the site boundary.

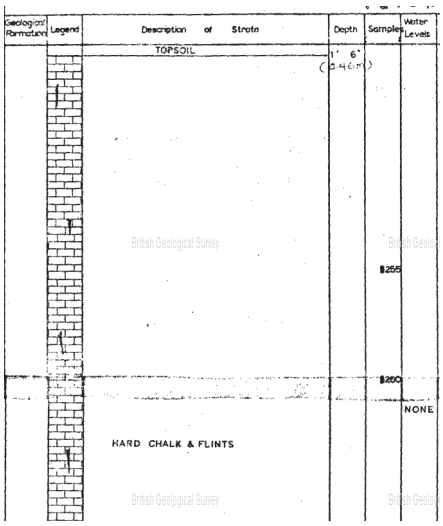
Locations of Nearby Boreholes



Likely Ground Conditions


Date and Depth (m)
DESCRIPTION OF STRATA
O.D. Level (m.O.D.)
Legend
10/2
FILL (bricks, clay, fragments of concrete and mortar)
2.00
28.20
3.50
11/2
Fragments of hard brownish-white CHALK in a soft claylike matrix with some flints. Occasionally grayish-white in colour. Traces of ironstaining at 20.30m.

New Road (A2) Borehole



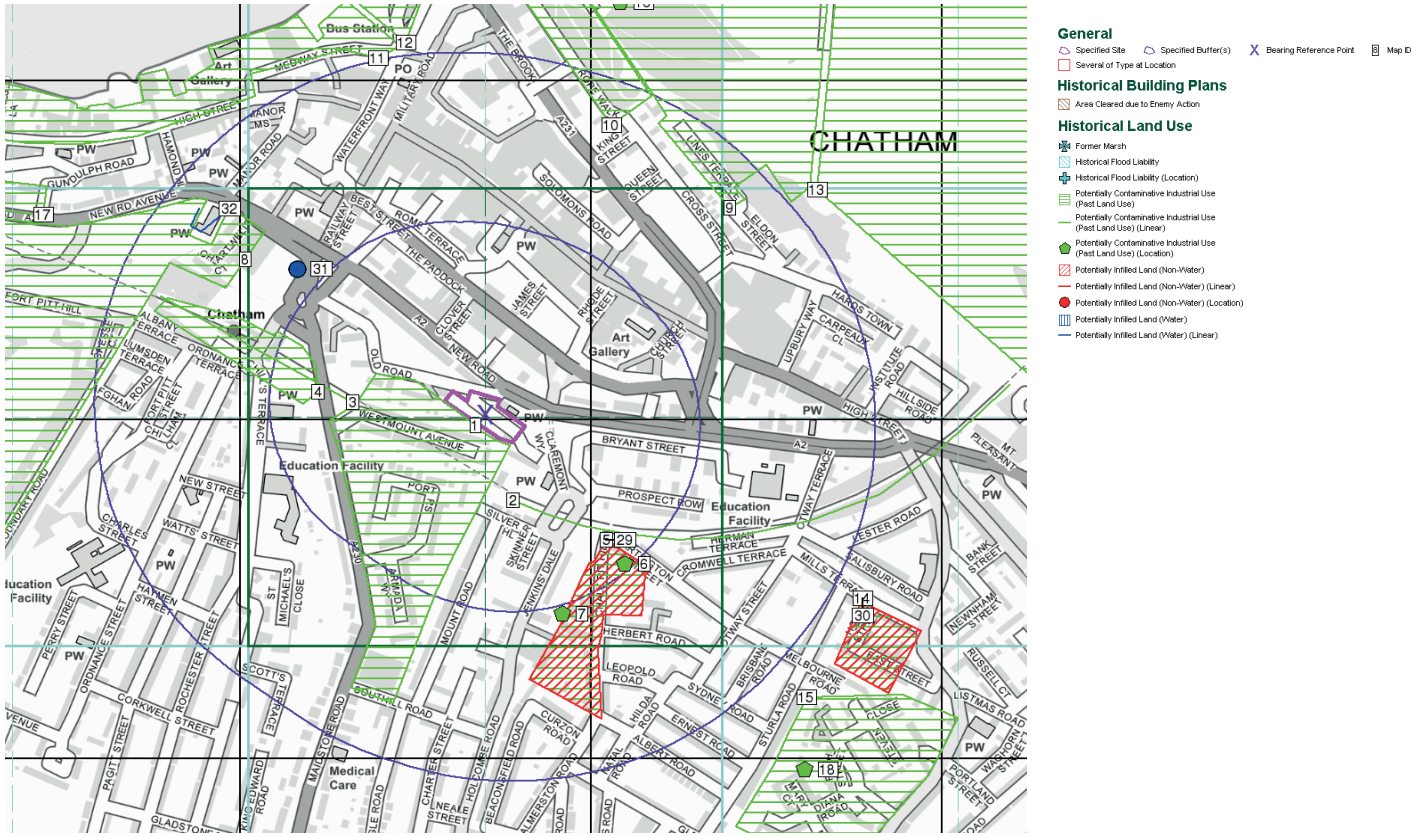
Westmount Avenue Borehole

5. Contamination

A study of the historical data for the site suggests there is limited chance of contaminants being present on the site, with no potential major hazards being identified as existing currently or historically. There are only a few potentially contaminative items in the wider vicinity of the site (withing 250 m) listed in the available historical data. The closest items is an electrical substation facility which is located on the eastern corner of the proposed site. The next closest items are related to the adjacent land use for the railways and the military barracks to the southwest. The other items are related to quarrying of sand and clay or the manufacture of cement, lime and plaster products further to the southeast.

In addition to the above, it was noted that the proposed site was used as a builders yard in the mid-1900s meaning there is the risk of asbestos contamination. Care should therefore be taken in establishing all potential sources of contamination via a more detailed site specific study in the future as it is assumed the proposals will involve the excavation of the car park. It is however unlikely anything significant will be found that would impact the development of the sie.

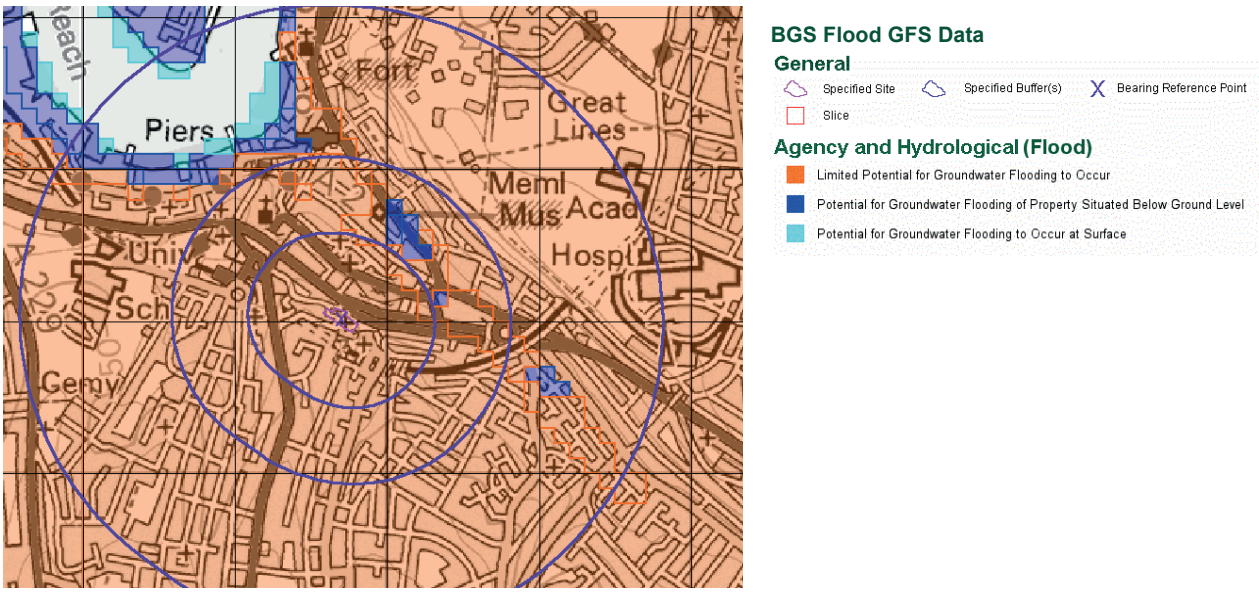
Were contaminants to be identified in the future, these would need to be treated on site or removed and safely disposed of as part of any future development.



Sources of Contamination Locally to the Site

6. Ground Water

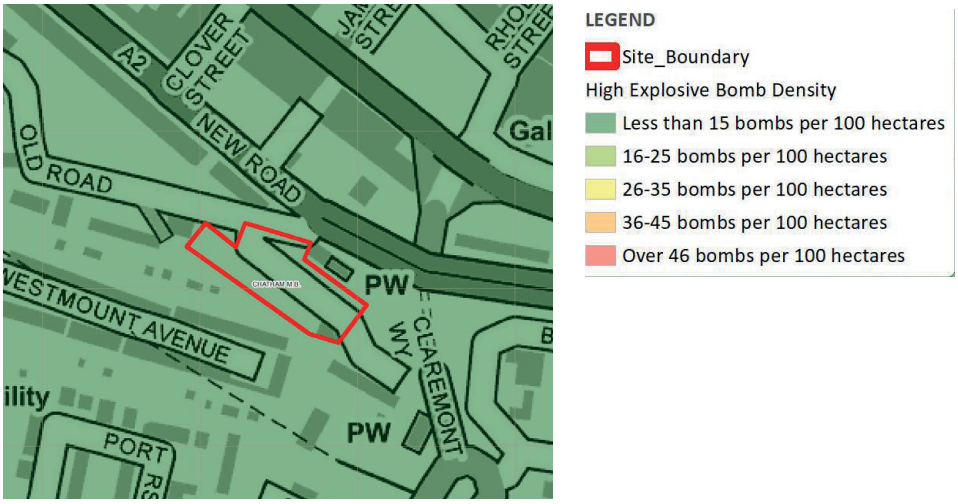
The borehole logs available locally to the site suggests the site is likely to have a low water table as water was typically struck at 23mbgl. This water table is likely to fluctuate due to the tides of the Medway river, meaning any intrusive site investigation will need to factor this in to account when ascertaining the exact level of the existing water table. BGS flood data also indicates that the site has a limited potential for groundwater flooding to occur.



Groundwater Data

7. Unexploded Ordnance (UXO) Threat Assessment

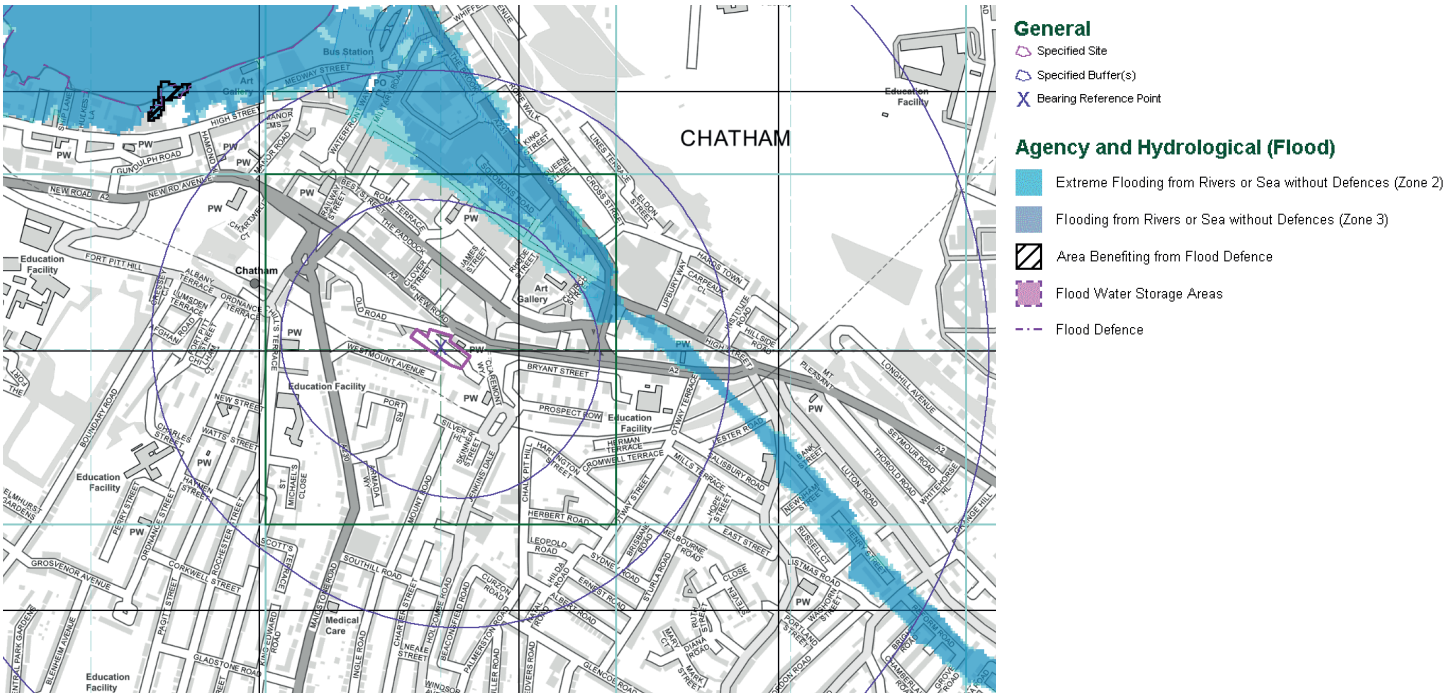
The preliminary UXO threat assessment report highlights a low risk for UXO being discovered on the site. Although known bombing targers from WW2 are located around Chatham (Chatham Shipyard (900 m north-east) and Rochester Port (595m north-west)), these are not deemed to be sufficiently close to the site to warrant further action . With this in mind the chance of encountering unexploded ordnance is classed as unlikely for the site and it is recommended that not further action is required ot address the UXO risk at this site.



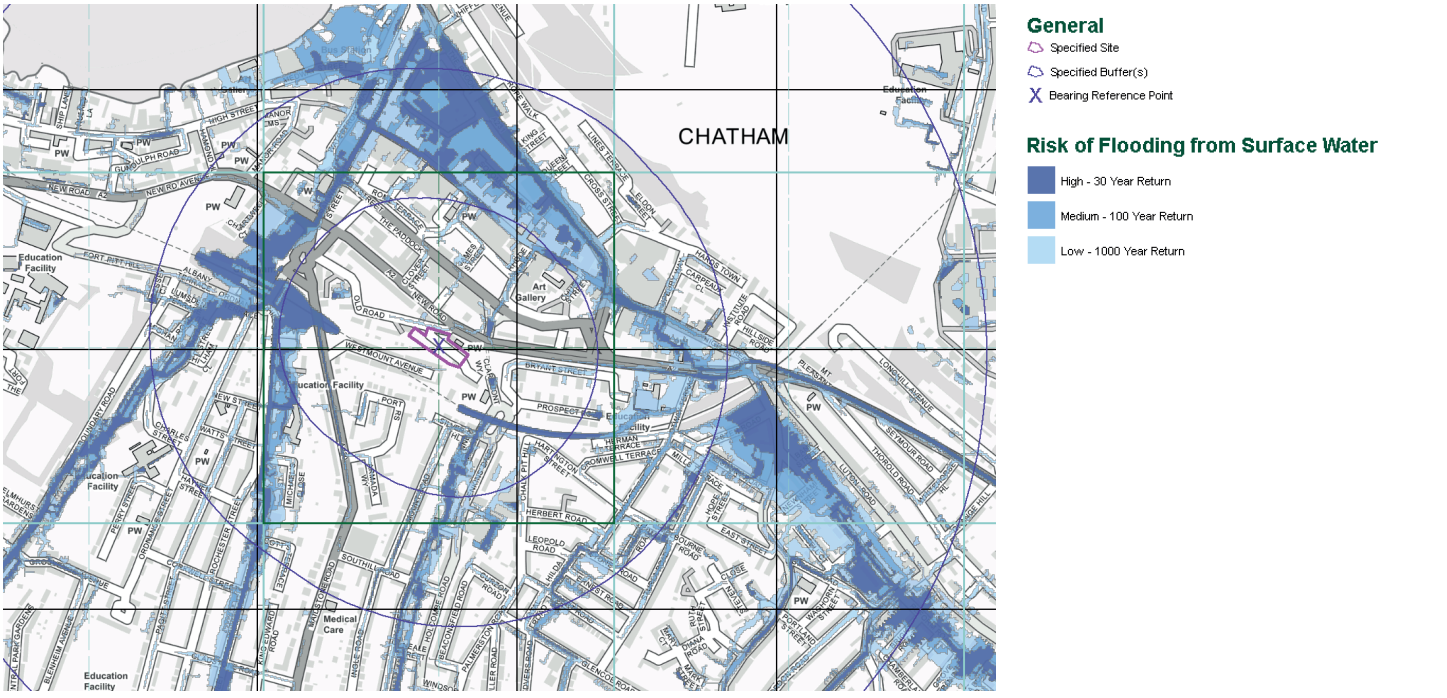
WWII High Explosive Bomb Density

8. Flood Risk

Based on the Envirocheck flood data map, the site and surrounding town is located in Flood Zone 1, described as land with a low probability of flooding from rivers or sea without defences. The site is also classified as having a low risk of flooding from surface water. A detailed floor risk assessment should be carried out to confirm this.



Flood Data Map



Surface Water Flooding Map

9. Recommendations

This desktop study provides a general understanding of the site history, ground conditions and the potential risks associated with those ground conditons. This report notes that there are no significant contamination risks, or indeed other risks that may prohibit the development of a residential scheme on the site. It is however advisable that prior to development of the site, a more specific and intrusive site investigation be conducted to determine exact soil strata, ground water levels and confirm the lack of contaminants across the site.

The proposed low rise residential development will likely be suited to be founded on shallow foundations supported on the chalk located just below the site. The detailed site investigation would however be necessary to confirm this, as the exact depth and capacity of the chalk stata are not known for this site.